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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,670	12/22/2003	Matt Murray	9314-58	7610
54414	7590	11/28/2006	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC, P.A.			PAN, YUWEN	
P.O. BOX 37428			ART UNIT	
RALEIGH, NC 27627			PAPER NUMBER	
			2618	

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/743,670

Applicant(s)

MURRAY, MATT

Examiner

Yuwen Pan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 and 18-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-5, drawn to an electronic device provide noise cancellation, classified in class 381, subclass 58.
 - II. Claims 6-17, drawn to a mobile terminal that has specific housing details, classified in class 455, subclass 575.1.
 - III. Claim 18-23, drawn to a method for controlling the mobile terminal modes with voice activity detections, classified in class 455, subclass 79.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because invention I is an electronic device that could be audio only and invention II is a mobile terminal has specific housing detail such as microphone. The subcombination has separate utility such as microphone and mobile device.

3. Inventions I and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant

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case, the combination as claimed does not require the particulars of the subcombination as claimed because invention I is an electronic device that is audio only and invention III is mode selection based on voice activity detection. The subcombination has separate utility such as selecting modes based on voice activity detection.

The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

4. During a telephone conversation with Attorney Elizabeth A. Stanek on 11/21/06 a provisional election was made without traverse to prosecute the invention of II, claims 6-17. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-5, and 18-23 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

DETAILED ACTION

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 6-9, 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Griffin et al (US 20040063456A1).

Per claim 6, Griffin discloses a mobile terminal (see figure 4 and 16) comprising: a housing (see figure 4); a microphone positioned in the housing (see figure 4 and item 14d); a speaker positioned in the housing remote from the microphone (see figure 4 and item 14a); and a multi-mode audio processor circuit (see figure 5 and item 196) configured to apply noise cancellation (item 191) to microphone (190) and background noise microphone (48) inputs thereof, from figure 4 it shows that the speaker(14a) and the background noise microphone (48) is coupled in a very closed vicinity (see paragraph 33 and 56).

Same arguments apply, *mutatis mutandis*, to claim 12 and 13.

Per claim 7, Griffin further teaches that the microphone pickups a composite signal comprising audio signal and surround noise signal, the background noise microphone (transducer) pickups the background noise signals only (see paragraph 33).

Per claim 8, Griffin further teaches that the processor (196) is configured to generate an audio signal from sound energy received by the microphone (14a) in the first mode of operation (see paragraph 33).

Same arguments apply, *mutatis mutandis*, to claim 14

Per claim 9, Griffin further teaches that the processor in associated with the noise cancellation unit is able to subtract the detected background noise signals from the corrupted speech received by the microphone (see paragraph 33).

Same arguments apply, *mutatis mutandis*, to claim 15.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffin et al (US 20040063456A1) in view of Warnaka et al (U.S. Patent #5,046,103).

Per claim 10, Griffin doesn't teach an audio amplifier and a preamplifier are enclosed for either modes. Warnaka teaches a noise reducing system for voice microphone comprising an audio amplifier (figure 2 and item 42) in which amplifier audio signal before reaching the speaker (38). It would have been obvious to one ordinary skill in the art at the time the invention was made to having a audio amplifier for amplifying audio signal to be carried out in speaker. Although neither Griffin nor Warnaka teaches a preamplifier teaches a preamplifier for the microphone, it is inherent that electronic microphone contains a preamplifier, typically a field effect transistor (FET), and voice is converted to electrical signal by capacitance.

Same arguments apply, *mutatis mutandis*, to claim 16.

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9. Claim 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffin et al (US 20040063456A1) and Warnaka et al (U.S. Patent #5,046,103) as applied to claim 10 above, and further in view of Suzuki et al (US005251262A).

Combination of Warnaka and Griffin doesn't expressly teach of switching modes between speaker mode and noise cancellation mode. Suzuki teaches switching between speaker mode and noise cancellation mode (see abstract). It would have been obvious to one ordinary skill in the art at the time the invention was made to combine the teaching of Suzuki with the combination of Warnaka and Griffin such that the system has enough time for calculation processing and proper adaptive control processing can be executed (see column 4 and lines 1-14).

Same arguments apply, *mutatis mutandis*, to claim 17.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuwen Pan whose telephone number is 571-272-7855. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anderson D. Matthew can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Yuwen Pan

November 26, 2006